

University of Nebraska - Lincoln

DigitalCommons@University of Nebraska - Lincoln

Library Philosophy and Practice (e-journal)

Libraries at University of Nebraska-Lincoln

Winter 2017

Electronic Journal of Knowledge Management: A Bibliometric Analysis

Jyotshna Sahoo

Sambalpur University, jyotshna_sahoo@rediffmail.com

Ghanashyam Meher

Sambalpur University

Basudev Mohanty

Institute of Physics, Bhubaneswar, basudev_mohanty@rediffmail.com

Follow this and additional works at: <https://digitalcommons.unl.edu/libphilprac>



Part of the [Library and Information Science Commons](#), and the [Science and Technology Studies Commons](#)

Sahoo, Jyotshna; Meher, Ghanashyam; and Mohanty, Basudev, "Electronic Journal of Knowledge Management: A Bibliometric Analysis" (2017). *Library Philosophy and Practice (e-journal)*. 1638.

<https://digitalcommons.unl.edu/libphilprac/1638>

Electronic Journal of Knowledge Management: A Bibliometric Analysis

Dr. Jyotshna Sahoo ¹

¹ Lecturer, P. G. Department of Library and Information Science, Sambalpur University, Odisha, India, E-mail: jyotshna_sahoo@rediffmail.com

Mr. Ghanashyam Meher ²

² PGT (Library and Information Science), Rajdhani Public School, Bansur, Rajasthan, India

Dr. Basudev Mohanty ³

³ Scientific Officer (Librarian), Institute of Physics, Bhubaneswar, Odisha, India, E-mail: basudev_mohanty@rediffmail.com, *Corresponding Author*

Abstract:

The Electronic Journal of Knowledge Management (EJKM) is an online open access peer-reviewed journal that publishes articles with regard to the development of both theory and practice in the field of Knowledge Management. The present paper examines the articles published in EJKM during the period from 2003-13 for identifying the publication output, authorship pattern, degree of collaboration, most prolific contributors, geographical distribution of papers, referencing pattern, self citation pattern and several other characteristics. The results of this study reveal that that the year 2009 is the most productive year, research papers are given more importance than other categories of publications. Majority of papers are multi- authored. The degree of collaboration is found to be 0.70. The geographical distribution reveals that the contribution by United Kingdom is highest.

Keywords: Bibliometrics, EJKM, Authorship pattern, Degree of Collaboration, Self-citation

Introduction:

In the present information and communication era, journals are considered as important vehicles of scholarly communication. A large numbers of journals are being published both in paper and in electronic format with respect to different subject areas, which fulfill the needs of the scholarly community. Journals are paramount for the advancement of any discipline and are known as the foundation for communication of academic research and professional knowledge. Journals present information in a clear and concise fashion with a high level of credibility and are considered as higher standard of research communication than any other forms of publications. In this context, the present study is an attempt to investigate the publication characteristics of the journal “Electronic Journals of Knowledge Management (EJKM)” using various bibliometric indicators.

Bibliometrics is a well-established discipline for a quantitative and statistical study of patterns of publication within a given subject field or body of literature. Bibliometric study is one of the important and favoured areas of research in the field of Library and Information Science. The word “Bibliometrics” was coined for the first time by British Scientist Alan Pritchard in the year 1969. Pritchard felt the need to redefine the scope of an area that was known for fifty years by the term ‘statistical bibliography’ by Hulme and thereby demonstrated a new field of quantitative analysis. Bibliometrics has become the generic term for a whole range of specific measurements and indicators; its purpose is to measure the output of scientific and technological research through data derived from published literature. It is a means for situating a country in relation to the world, an institution in relation to a country, and even individual scientists in relation to their own communities. It is a quantitative study of various aspects of published literature and used to identify the patterns of publications.

Review of Literature:

Analysis of single journals has been the subject of many bibliometric and scientometric studies. A number of contributors especially in the field of Library and Information Science have conducted bibliometric analysis of LIS as well as popular journals from other disciplines in different countries around the globe. A study conducted by Tiew (1997) appeared in *Malayasian Journal of Library and Information Science* reviewed 102 papers on single journals covered by LISA Plus and CRLIS database during 1969 to 1997. Many LIS journals of national and international nature have been the focus of study by scholars. Even a particular journal has been studied at different time period and by scholars of different regions. Some important studies on bibliometric analysis of single journals are mentioned as under:

Tiew, Abdullah and Kaur (2002) studied the Malaysian Journal of Library and Information Science (MJLIS) covering the period 1996-2000, Bakri and Willett (2008) analysed publication and citation patterns of the same journal MJLIS from 2001-2006 and compared the results with those obtained in an earlier study by Tiew, Abdullah and Kaur (2002). Tsay (2008) explored the relationship between “*Journal of the American Society for Information Science and Technology*” (JASIST) and other disciplines by citation analysis. The results revealed that JASIST itself is the most highly cited journal followed by four library and information science (LIS) journals, namely “*Information Processing and Management*”, “*Journal of Documentation*”, “*Annual Review of*

Information Science and Technology” and “*Journal of Information Science*.” The three main classes of journals that were mostly cited by JASIST are Library Science (50%), Science (22.7%) and Social Sciences (6.3%). Thanuskodi (2010) did a bibliometric study of 249 articles published during the period from 2005-09 in the journal “*Library Philosophy and Practice*” and the results of the study revealed that the highest number of articles have appeared in the area of computer application in library and information science. The maximum numbers of contributors (37.75 %.), are two authors, majority of articles (96.85%) contain references which include journals, books, conference proceedings, dissertations, etc. A majority of the contributors preferred journals as the source of information which occupied the top position with the highest number of citations 1,026 (53.03%) of the total 1,935 citations. Tsay and Shu (2011) studied the journal bibliometric characteristics of the “*Journal of Documentation*” (JOD) and the subject relationship with other disciplines by citation analysis. It revealed that journal articles are the most cited document, followed by books and book chapters, electronic resources, and conference proceedings, respectively. The three highly cited subjects of library and information science journals encompass searching, information work, and online information retrieval. Another study for the same JOD conducted by Roy and Basak (2013) revealed that majority of papers are multi- authored. The geographical distribution reveals that the contribution by United Kingdom is the highest where as the average numbers of citations per paper were 43. Warraich and Ahmad (2011) made a bibliometric analysis of contributions published in the “*Pakistan Journal of Library & Information Science*” (PJLIS) from 1995 to 2010 covering 11 issues of the journal. The authors analysed the publications the basis of different parameters, viz., author productivity, extent of authors’ collaboration, authors’ institutional affiliation, authors’ geographic affiliation, type of publication, language of papers, numbers of citations used per article. Tsay (2011) studied the bibliometric characteristics of the “*Journal of Information Science*” (JIS) and made a citation analysis of the journal to find out the subject relationship of LIS with other disciplines. Isiakpona (2012) conducted bibliometric study of “*Library & Information Science Research Electronic Journal*”. The results of the study revealed that most of the articles were within the general subject area of Library and Information Science and were written by a single author. Hence, the degree of collaboration was 0.279, and the majority of the publications were contributed by authors in universities. Das (2013) conducted a bibliometric study of 206 articles published in “*Library Trends*” from 2007-2012. Results show that highest number (51) of articles is published in 2007-

08. Majority of authors preferred to publish their research results in individual authorship mode 122 (59.22%). Tella and Olabooye (2014) did a bibliometric study of “African Journal of Library, Archives & Information Science”. The results of the study reveal that the majority of the articles, i.e. 57.8% were published by single authors, out of which, a large number were theoretical papers, while the others were empirical papers, book reviews and short communications.

Apart from the above LIS journals of International character many national journals in LIS have been studied. Some of the important journal under this category are bibliometric study of the journal *Annals of Library and Information Studies* (Jena, Swain & Sahoo, 2012), *DESIDOC Journal of Library and Information Technology* (Kumar & Murty, 2011) (Pandita, 2014), *IASLIC Bulletin* (Panda, Mohanty & Sahoo, 2011), *Library Herald* (Thanuskodi, 2011). Publication output, authorship pattern, subject coverage of publications, institutional affiliation of authors, length of articles , citation analysis are the different dimensions of bibliometric analysis done across the journals.

Not only LIS journals but journals of other discipline have also been the focus of bibliometric study by scholars. Employing bibliometric approach Sahoo and Mohanty (2002) conducted a study on the journal *Studies In Conservation* , Suresh and Nigam (2005) made a study of the *Journal of Health Management* ,Vijay and Raghavan (2007) studied *Journal of Food Science & Technology*, Jena (2006) made a study on *Indian Journal of Fibre and Textile Research*, Biswas, Roy and Sen (2007) conducted a bibliometric study on *Economic Botany* from 1994-2003, Zao, et al. (2007) made a study on *Educational Psychology* , Willet (2008) found that many of the most cited papers in the *Journal of Chemical Information and Modeling* describe software packages that play a key role in modern chemo-informatics research. Anyi, Zainab and Anur (2009) did a bibliometric study on *Malayasian Journal of Computer Science*, Verma and Tamrakar (2009) analysed *Defense Science Journal* which has a prominent place in the dissemination of Defense Research & Development information all over the world, Asha and Anil (2010) under took a bibliometric study of 4798 citations appended to 400 articles published during (2003-2007) of the *Indian Journal of Pure and Applied Mathematics* and Thanuskodi (2011) did a study on *Indian Journal of Chemistry* which is a leading monthly journal in Organic and Medicinal Chemistry published from India, while Barik and Jena (2013) studied *Journal of Knowledge Management Practice*, Saravanan and Dominic (2014) did study on *Review of Palaeobotany and Palynology*.

Data Source and Methodology:

The source data for the present study is the open access e-journal “*Electronic Journal of Knowledge Management*” published by Academic Conferences Limited (England). The publication of the journal commenced in the year 2003 and the journal accepts academically robust papers, topical articles and case studies that contribute to the area of research and practice of knowledge management. According to Global Institute for Scientific Information (GISI), Impact Factor (IF) of this journal was 3.8012 in the year 2012 where it was 2.4890 in the year 2011. EJKM is indexed in EBSCO database of electronic Journals, Open Access Journals database, indexed by CiteseerX, listed in Ulrich’s Periodical Directory and also rated as level 1 in the Danish Government Bibliometric lists from the year 2003. The present study covers, 11 volumes and 32 issues of the journal published within a time period from 2003 to 2013. The authors collected all the 313 full text articles of the journal available in the *Directory of Open Access Journal* (DOAJ) at www.doaj.org. For each full text article bibliographic details like, the titles of articles, names of authors, number of authorship, author’s institutional affiliation, country and discipline, type of article, length (pages) of article, number of references, author supplied keywords, length of the abstracts, self-citing information were collected. All the necessary data points recorded assigning a *unique code* to each and every article in a specific designed template in MS-excel spreadsheet. After thorough scrutiny, standardized data were compiled, tabulated and analyzed for making interpretations by following various bibliometric indicators.

Objectives of the study:

The main objective of the present study is to analyse the publication of the journal “Electronic Journal of Knowledge Management” with regard to the following objectives:

- To study the publication output of EJKM;
- To find out the chronological distribution of research papers;
- To examine the category-wise classification of papers;
- To study the authorship pattern of papers;
- To study the degree of collaboration among authors and the applicability of Lotka’s Inverse Square Law ;
- To study the most prolific contributors;
- To study the institute-wise distribution of papers;

- To identify geographical distribution of articles (Continent & Country- wise);
- To know the subject-wise distribution of the papers;
- To study the number of occurrence of keywords and frequency of rank list of keywords ;
- To study the length of the articles;
- To study the reference pattern of the articles;
- To know the lengths of the abstracts;
- To find out the self citation pattern of the articles;
- To find out the inclusion of Tables and Figures in articles.

Analysis and Interpretation:

The present study covers a time span of 11 years commencing from 2003 to 2013 which covers 11 volumes and 32 issues of the journal consisting of 313 numbers of articles. It is observed that the average numbers of articles per volume are 28.45 whereas average numbers of articles per issue are 9.78.

Table 1: Chronological distribution of articles

Year	Vol. No.	No. of issues	No. of articles issue-wise					Total No. of articles	% of articles	No. of articles (c.f.)	c.f. %
			1	2	3	4	5				
2003	1	2	7	21	0	0	0	28	8.95	28	8.9
2004	2	2	8	4	0	0	0	12	3.83	40	12.8
2005	3	2	6	7	0	0	0	13	4.15	53	16.9
2006	4	2	9	12	0	0	0	21	6.71	74	23.6
2007	5	4	14	12	9	20	0	55	17.6	129	41.2
2008	6	2	6	10	0	0	0	16	5.11	145	46.3
2009	7	5	18	11	8	13	11	61	19.5	206	65.8
2010	8	3	14	9	6	0	0	29	9.27	235	75.1
2011	9	4	8	8	10	6	0	32	10.2	267	85.3
2012	10	3	8	8	6	0	0	22	7.03	289	92.3
2013	11	3	6	10	8	0	0	24	7.67	313	100
Total	11	32	104	112	47	39	11	313	100		

Table 1 covers the chronological distribution articles during the period of study from 2003 to 2013 and it reveals that highest numbers of articles 61(19.49%) were published in the year 2009 as five

issues have been published particularly in this year. The number of issues of the journal EJKM varies from 2 to 5 where as total number of articles per year varies from minimum 12 in 2004 to maximum 61 in 2009. From the observed data it can be interpreted that, publication of articles in different years and in different volumes is not consistent.

As regards to the types of publications of the journal EJKM, all the papers are classified in to three categories namely, “Case Studies”, “Research Articles” and “View Points”. Out of 330 publications, the highest are “Research Articles” (RA = 151) that accounts for 48.2% of the total contributions followed by “Case Studies” (104 papers, 33.2%), and “View Points” (58 papers, 18.6%) respectively. It is observed that, research articles are given more importance than other types of publications.

Table 2: Chronological Distribution of Types of Publications

Year	Case Studies		Research Articles		View Points		Total
	No.	%	No.	%	No.	%	
2003	4	3.8	16	10.6	8	13.8	28
2004	2	1.9	5	3.3	5	8.6	12
2005	2	1.9	7	4.6	4	6.9	13
2006	7	6.7	7	4.6	7	12.1	21
2007	19	18.3	29	19.2	7	12.1	55
2008	10	9.6	4	2.6	2	3.4	16
2009	21	20.2	33	21.9	7	12.1	61
2010	14	13.5	11	7.3	4	6.9	29
2011	10	9.6	13	8.6	9	15.5	32
2012	8	7.7	13	8.6	1	1.7	22
2013	7	6.7	13	8.6	4	6.9	24
Total	104	100	151	100	58	100	313
%	33.2		48.2		18.6		

Table 3 deals with authorship pattern of the journal EJKM for the years from 2003 to 2013. It is observed that 330 numbers of publications are contributed by 647 numbers of authors which reflects that the average number of authors per papers is 2.1. Out of 330 papers, 93 (29.7%) numbers of papers are contributed by single authors and 220 (90.3%) numbers by multiple authors. Further it is observed that, two authored papers are very high that is 142 (45.4%) in comparison to other joint authorship as well as single authorship papers. On the contrary, contributions by 5 and 7 authored papers are relatively less in number i.e. 02(0.6%) for each category only. But on the

whole, as the multi-authored papers are dominant, it can be inferred that the collaborative research is at the front in case of EJKM journal publications.

Table 3: Authorship Pattern of Publication

Authorship	Years											No. Of Articles	%	Total Authors
	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013			
Single author	9	4	4	4	19	4	16	8	13	5	7	93	29.7	93
2 authors	10	8	5	10	28	10	27	12	11	10	11	142	45.4	284
3 authors	7		4	5	7	2	12	4	5	3	1	50	15.9	150
4 authors	2			1	1		5	4	3	3	5	24	7.7	96
5 authors							1		1			2	0.6	10
6 authors												0	0.0	
7 authors				1			1					2	0.6	14
Total articles	28	12	13	21	55	16	61	29	32	22	24	313	100	
Total authors	58	20	26	50	100	30	133	65	62	51	52			647
Average authors	2.1	1.7	2.0	2.4	1.8	1.9	2.2	2.2	1.9	2.3	2.2	2.1		
Single %	32	33	31	19	35	25	26	28	41	23	29	93	30	
Joint %	68	67	69	81	65	75	74	72	59	77	71	220	70	

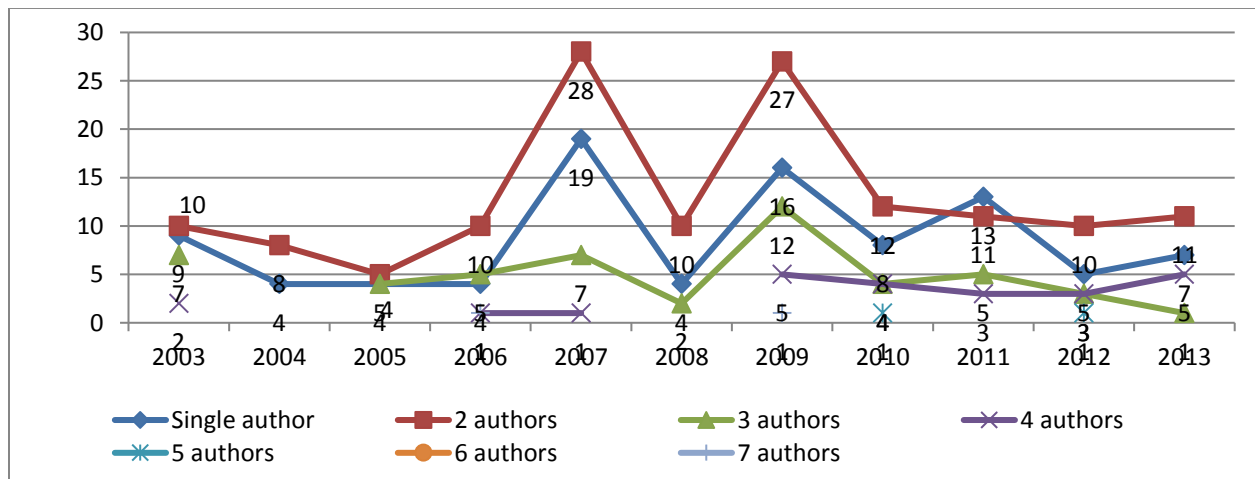


Figure 1: Comparison of Authorship Pattern

Table 4: Degree of Collaboration

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Total	%
Single author	9	4	4	4	19	4	16	8	13	5	7	93	29.71
Multiple authors	19	8	9	17	36	12	45	21	19	17	17	220	70.29
Degree of collaboration	0.68	0.66	0.69	0.81	0.65	0.75	0.74	0.72	0.59	0.77	0.71	0.703	

The degree of collaboration among the authors was calculated using Subramanian's formula (Subramanian, 1983) and presented in Table 4.

It is observed that the collaboration co-efficient varies from minimum value of 0.59 in 2011 to maximum value of 0.81 in 2006 during the period of study and the mean collaboration co-efficient is **0.70**. This indicates that EJKM has accommodated more number of collaborative works than single authored ones.

Application of Lotka's inverse Square Law of Scientific Productivity:

Lotka's Inverse Square Law of Scientific Productivity is used to determine the authors' productivity by the frequency of publications of authors in any given field. The law states that the number of authors making n contributions is about $1/n^a$ of those making one contribution, where a nearly equals to two. It means, as the number of articles published increases, authors producing those publications become less frequent. Lotka's law: $X^n Y = C$ where,

x	=	number of publications
y	=	relative frequency of authors with X publications
n	=	constant depending on the specific field ($n \approx 2$)
C	=	constant

It is reflected in Table 5 that, a highest 207 number of authors out of 250 have contributed single paper each and its proportion is 0.828 which is considered most significant than the number of authors contributed 2, 3, 4, 5, and 6 number of papers each. Hence, it can be concluded that, the Lotka's inverse Square Law of Scientific Productivity is not fit the current sample as there is a huge gap between number of authors observed and number of authors expected in relation to their productivity pattern. Supplementing to the study, efforts have been made to account all the contributing authors and their productivity pattern which also demonstrates that the similar pattern.

In this case also a majority 486 number of authors produce single paper each whose proportion 0.698 is dominating overall productivity pattern.

Table 5: Number of expected Authors derived using Lotka's inverse Square Law

No. of Papers (X)	EJKM							
	Considering only 1 st Authors				Considering all Authors			
	No. of Authors Observed (Y)	Proportion of observed authors with respect to total contributors	No. of Authors Expected with n=2	Proportion of expected authors with respect to total contributors	No. of Authors Observed (Y)	Proportion of observed authors with respect to total contributors	No. of Authors Expected	Proportion of expected authors with respect to total contributors
1	207	0.828	207	0.669	437	0.675	486	0.670
2	29	0.116	52	0.168	109	0.168	122	0.168
3	10	0.040	23	0.074	37	0.057	54	0.074
4	03	0.012	13	0.042	27	0.041	30	0.041
5	00	0.000	08	0.025	14	0.021	20	0.027
6	1	0.004	06	0.019	23	0.035	13	0.017
Total	250		309		647		725	

Table 6: Prolific Authors

Sl. No.	Rank No.	Author's Name	Country	No of Publications
1	1	Constantin Bratianu	Romania	6
2	2	Kai Mertins	Germany	5
3	2	Markus Will	Germany	5
4	3	Aurélie Aurilla Arntzen Bechina	Norway	4
5	3	Farhad Daneshgar	Australia	4
6	3	Scott Erickson	USA	4
7	4	Jean-Louis Ermine	France	3
8	4	John Girard	USA	3
9	4	Jane McKenzie	UK	3
10	4	Mark Woodman	UK	3
11	4	Christine van Winkelen	UK	3
12	4	Emil Scarlat	Romania	3

Table 6 illustrates the rank list of most prolific authors contributed to EJKM literature during the period of study. The rank list of prolific authors has been derived on the basis of numbers of contributions to the journal during the study period. It is observed that, Constantin Bratianu from Romania occupies the first rank with six numbers of articles followed by Kai Mertins and Markus Will from Germany having 5 numbers of articles each. Three authors namely, Aurélie Aurilla Arntzen Bechina, Farhad Daneshgar and Scott Erickson have occupied the third rank each with 4 numbers of articles and belong to the countries of Norway, Australia and USA respectively. Jane McKenzie, Mark Woodman and Christine van Winkelen all three from UK have occupied the fourth rank along with John Girard from USA each with 3 numbers of publications. Though the journal EJKM is being published from UK, its 'publications are not confined to the host country rather contributors are scattered over the globe.

Table 7: Institutional Affiliation of Authors

	Institutional Affiliation of Authors				
Year	College	University	Research Institute	Others	Total
2003	6	21	0	1	28
2004	1	9	1	1	12
2005	4	8	0	1	13
2006	4	16	1	0	21
2007	12	37	1	5	55
2008	2	11	1	2	16
2009	9	44	1	7	61
2010	2	23	2	2	29
2011	3	25	2	2	32
2012	2	16	2	2	22
2013	3	17	3	1	24
Total	48	227	14	24	313
%	15.35	72.52	4.47	7.66	100

The papers of the journal EJKM are found to be contributed by contributors attached to various institutions. All the institutions are broadly classified into four categories i.e. College, University, Research Institutes and remaining institutes are grouped under others. Table 7 shows the institution-wise distribution of papers published in the journal considering the first authors of the papers. It is found that authors from academic institutions such as: Universities and Colleges contributed a major share of papers such as 227 (72.52%) and 48 (15.35%) respectively. The

contribution from research institutions are found be very less that is 14 (7.66%) where as others were 24(10.90%). During the whole period of study it is sharply observed that, the contributions to EJKM are mostly dominated by academicians attached to Universities and Colleges.

Table 8: Geographical Distribution of Articles

Continent	No. of Articles	%	No. of Country	%	No of Authors	%
Asia	11	3.51	14	25.00	65	10.04
Africa	37	11.82	3	5.36	22	3.40
Australia	22	7.03	2	3.57	45	6.96
Europe	200	63.91	30	53.57	406	63.68
N. America	32	10.22	3	5.36	79	12.21
S. America	11	3.51	4	7.14	28	3.71
Total	313	100	56	100	647	100

Assessment of continent and country-wise research productivity has a long standing tradition of bibliometric studies. The share of contributions from different continents to EJKM research has been derived on the basis of authors' affiliation considering the "first authors" as well as "all authors" and shown in the table 8. From the table it is clear that except Antarctica, there are contribution from all the other 6 continents consisting of 56 countries and contributions from 647 authors to the journal EJKM. The continent Europe is far ahead from its' counterparts as there are contribution from 30 (53.57%) countries consisting of 406 (63.68%) authors only from this continent who contributed 200 (63.91%) papers. Africa occupies the second rank with 3 participating countries from which 22 authors contributed 11.82 % of the total publications followed by North America with 22 participating countries and publications made from 79 authors who contributed 12.21% of papers. Percentage of contribution from South America is lowest (3.71%) while Europe dominates in its contribution to the journal EJKM.

The rank list of country-wise distribution of articles has been derived on the basis of the number of contributions from each country and presented in Table 9. It is observed that, out of the total contributions (313 papers), the top 10 countries share more than 50% of articles. UK the host country of the journal leads the other 55 participating countries with highest (49) numbers of articles followed by USA (21) and Finland (20). India occupies 11th rank with 4 numbers of articles during the study period.

Table 9: Rank list of Country-wise Distribution of Articles

Rank	Country	No of Articles	%
1	UK	49	15.65
2	USA	21	6.71
3	Finland	20	6.39
4	Australia	16	5.11
5	Germany	15	4.79
6	Spain	13	4.15
7	Canada, Romania	11 (each)	3.51
8	Portugal	9	2.87
9	Sweden, Norway	8	2.55
10	Netherland, Italy, Ireland	7 (each)	2.27
11	India	4	1.28

Table 10: Subject-wise Distribution of Articles

Rank	Subject Areas to KM	No. of Articles	%
1	Intellectual Capital	54	17.25
2	Knowledge Management	47	15.02
3	KM Application	42	13.42
4	KM Practices	34	10.86
5	Knowledge Based System Engineering	32	10.22
6	KM Research	25	7.99
7	Organisational Learning	23	7.35
8	Management Information System and KM	13	4.15
9	ICT and Knowledge Management	10	3.19
9	Social Media and KM	10	3.19
10	Knowledge Economy	8	2.56
11	Natural Language Processing	5	1.60
...	Others like Cyber laws & IPR, Information Quality Assessment, Information Society, Data Mining etc.	10	3.20
Total No. of Articles		313	100

In order to find out the subject areas of research of EJKM publications, all the title of the articles have been taken into consideration. By analyzing each title, the core areas of KM research published during the study period have been derived and presented in Table 10. It reveals that as

the thrust area of research publications of the journal is KM, papers are appeared reflecting several theoretical and practical approaches and are on different aspects of KM. Highest number of articles (54; 17.25%) are published on the subject area Intellectual Capital, followed by Knowledge Management (47; 15.02%) and KM Applications (42; 13.42%). It is found that quite a good number of articles have been published on different dimensions of KM like impact of ICT on KM, implementation of KM in Organisations, Social Media and KM, MIS and KM etc.

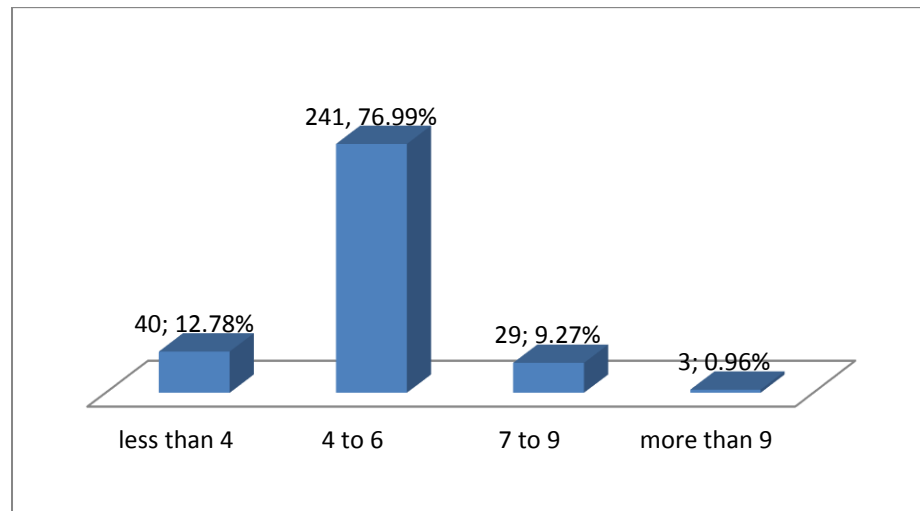


Figure 2: Distribution of Keywords in Papers

Keywords are those words that appear most frequently in articles and reflect the aspects on which the article is centered round. Choosing appropriate keywords by the authors put the documents at proper setting and it leads to higher visibility and accessibility of valuable works and thereby draws more citations. Keywords also play an important role in retrieval of the documents from the vast sea of literature and facilitates in indexing the documents at their relevant places in different indexing databases so that users can browse their required documents easily and conveniently as most of the times they approach documents by keyword searches. Two types of analyses have been conducted related to keywords for the present study. Figure 2 depicts the number and percentage of keywords in articles, while table 11 presents the most frequently occurred keywords. It is observed that, the keyword range of EJKM papers varies minimum 2 to maximum 11. Giving 4 to 6 keyword is the most preferred pattern as out of 313 papers, 241 (76.99%) have followed this pattern. 40 number of articles have 2 to 3 keywords each and only 3 numbers of articles have more than 9 keywords.

Table 11: Rank List of Keywords

Rank No.	Keyword	Frequency	Rank No.	Keyword	Frequency
1	Knowledge Management	97	6	Community of practice	16
2	Intellectual Capital	51	7	Organizational learning	14
3	Knowledge Sharing	34	8	Innovation	13
4	Knowledge Transfer	21	9	SMEs	12
5	Knowledge	17	10	Knowledge Creation	11

Table 11 denotes the frequency of top 10 keywords appeared in the papers. Since the journal itself is entitled as Electronic Journal of Knowledge Management (EJKM) ‘Knowledge Management’ is the most frequently occurred keyword (Rank-1) appeared 97 times. Out of the 10 most frequently occurred keywords, knowledge as a prefix has been occurred in case of 5 keywords it means the articles published in the journal are related to different aspects of KM.

Table 12 indicates the length of the articles in terms of pages. Out of total 313 articles, more than half of the articles 162(51.76%) are between 10 to 12 pages in length, followed by 82 (26.2%) articles are within 7 to 9 pages where as 41 articles are within the range of 13-15 pages. Only 3.19% of articles are within 4 to 6 pages whereas two articles are more than 21 pages. It is observed that, most of the articles (295, 94.24%) in the journal EJKM are in between the page ranges of 4 to 15 which is the preferred pagination pattern of the journal.

Table 12: Length of the articles in terms of Pages

No. of pages	No. of articles	%
4 to 6	10	3.19
7 to 9	82	26.2
10 to 12	162	51.76
13 to 15	41	13.1
16 to 18	13	4.15
19 to 21	3	0.96
> 21	2	0.64
Total	313	100

References play an important role for the research papers and determine the importance of a research work in a given field of study. Before writing a research paper, the researcher has to go through related previous research works which are already done in the area to get ideas from the same. The list of research papers referred by the researcher indicates the standing and the maturity of the area of study. From figure 3, it is clearly observed that, highest number of articles (136, 43.45%) have appeared with a range of references between 20-40, followed by 86 articles (27.48%) below than 20 references and 67 (21.41%) articles with 40 to 60 references where as only 24 articles have appeared with more than 60 references. It is further observed that the number of references varies from minimum 6 to maximum 94. As the preferred range of references of the EJKM papers are within 20 to 60, it can be inferred that the contributors of the journal refer a good number of papers for writing their research papers.

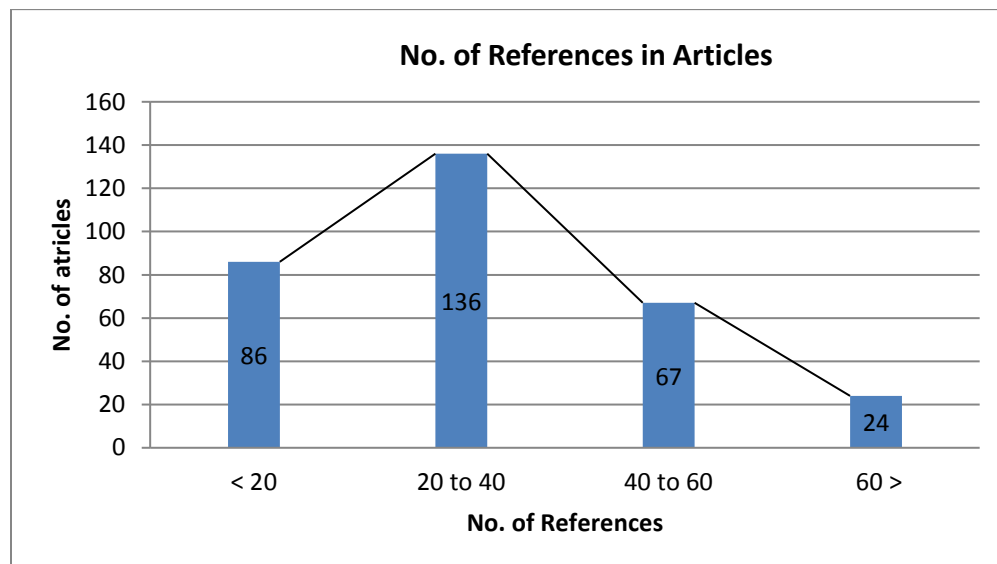


Figure 3: Number of References in Articles

The counting of words in abstracts of EJKM articles has been done with the sole purpose to know the general length of the abstracts. It is observed that maximum numbers of abstracts (112; 35.78%) fall in the word range of 100-200. The second highest numbers of abstracts (86; 27.48%) are within the word range of 200-300 followed by 59 numbers of abstracts in the range 300-400 words, while only 41 numbers of abstracts having less than 100 words and 15 abstracts have more than 400 words. So above and all it is observed that the most of the abstracts of EJKM research publications (around 87%) are more than 100 words.

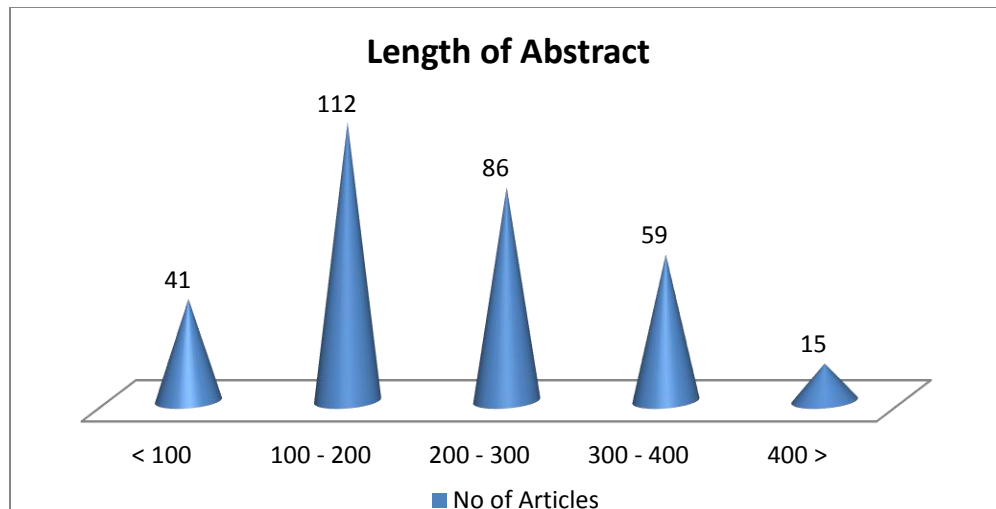


Figure 4: Length of the Abstracts

Author's self citation generally used to mean citations made to the earlier work of an individual writer in current research work of the same writer. Self-citations reflect an author's research credibility and standing in the discipline. When an author cites a previous work in his present work it establishes a connection between two documents that is, one which cites and other which is cited and reflects that both works are related to some extent. Figure 4 indicates that, authors of 174 (56%) articles have cited their earlier papers where as authors of 139 (44%) papers have no such self citations. It means most of the authors of EJKM have already worked on similar kind of research themes appeared in EJKM.

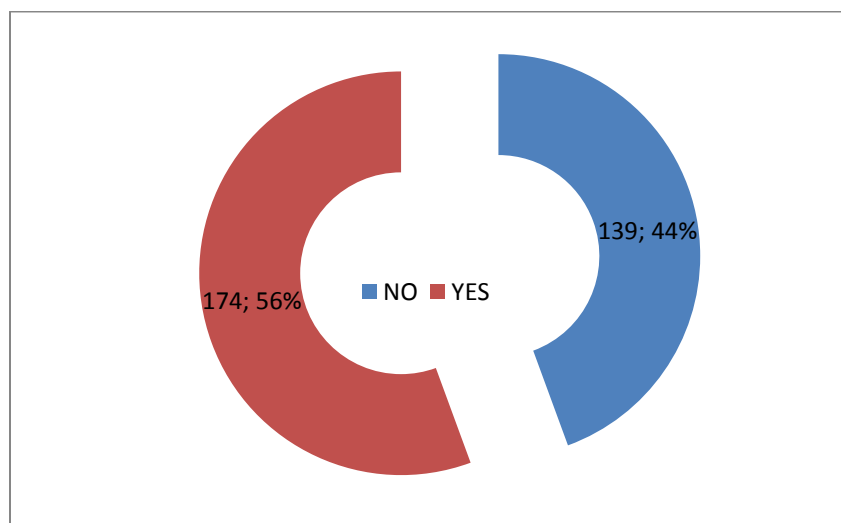


Figure 4: Percentage of self citation of articles

Tables and figures are considered as integral part of any research article because the quantitative as well as the qualitative data are well presented through tabular and graphical manner and these tables and figures help to draw clear inferences. During the study period (i.e. from 2003 – 2013), it is observed that out of 313 articles, 81% (252) articles have used figures where as in case of 57% (178) articles data are represented through tables. Since 81% and 57% of papers of EJKM take the help of figures and tables to represent the information these can be considered as vital part of the research papers of the journal.

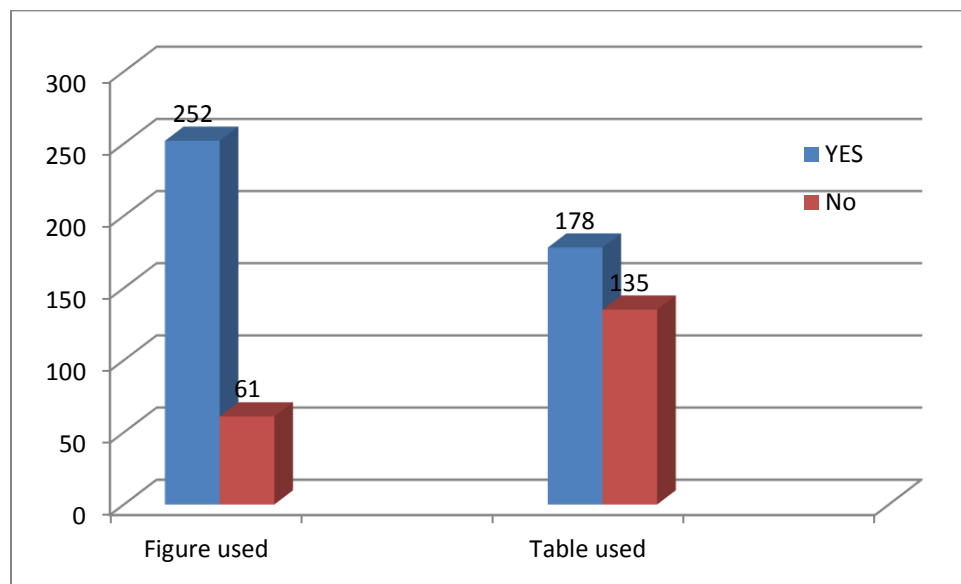


Figure 5: Figures and Tables used in the articles

Conclusion:

Bibliometric study of a single journal provides valuable insights of the publication trend of the journal during a period of time. Anyi Zainab & Anuar(2009) pointed out that bibliometric study of a single journal provides a portrait of the concerned journal by indicating the quality, maturity and productivity of the journal. It informs about the research orientation that the journal supports to disseminate and its influence on author's choice as a channel to communicate or retrieve information for their research needs. In the similar way, the systematic study of the journal EJKM covering a time span of 11 years commencing from 2003 to 2013 provides several interesting characteristics of the published articles. The journal published 313 articles during the period of study of which 2009 was the most productive year when 61 articles have been published. The journal gives priority to research articles than other forms of publications. Though the

collaboration co-efficient of authorship varies from minimum value of 0.06 in 2006 to maximum value of 0.144 in 2009, the mean collaboration co-efficient **0.70** reflects that the journal has accommodated more number of collaborative works. Constantin Bratianu from Romania stands to be most productive author with six numbers of articles. The contributions to EJKM are mostly dominated by academicians attached to Universities and Colleges. Except Antarctica, there are contribution from all the other 6 continents consisting of 56 countries and contributions from 647 authors to the journal EJKM. UK the host country of the journal leads the other 55 participating countries with highest (49) numbers of articles. As the thrust area of research publications of the journal is KM, papers have appeared reflecting several theoretical and practical approaches and are on different aspects of KM. Giving 4 to 6 keywords is the most preferred pattern of EJKM papers. Most of the articles (295, 94.24%) in the journal EJKM are in between the page ranges of 4 to 15. 'Knowledge Management' is the most frequently occurred keyword (Rank-1) that has appeared 97 times. Majority of the abstracts of EJKM research publications (87%) have more than 100 words. Many writers of EJKM papers have cited their earlier works as the percentage of self citation is more than 56%. All these indicators of the journal establish that EJKM is a quality journal devoted to the field of knowledge management.

References:

1. Anyi, K. W., Zainab, A. N., & Anuar, N. B. (2009). Bibliometric studies on single journals: a review. *Malaysian Journal of Library & Information Science*, 14(1), 17-55.
2. Asha, N., & Anil, K. (2010). A bibliometric study of journal of Pure and Applied Mathematics. *SRELS Journal of Information Management*, 47 (1).
3. Bakri, A., & Willett, P. (2008). The Malaysian Journal of Library & Information Science 2001-2006: A Bibliometric Study. *Malaysian Journal of Library & Information Science*, 13(1), 103-116.
4. Barik, N., and Jena, P. (2013). Bibliometric Analysis of Journal of Knowledge Management Practice, 2008-2012. *Library Philosophy and Practice* (e-journal).
5. Biswas, B. C., Roy, A., & Sen, B. K. (2007). Economic Botany: A Bibliometric Study. *Malaysian Journal of Library & Information Science*, 12 (1), 23-33.

6. Das, T. K. (2013). A bibliometric analysis of contributions in the journal *Library Trends*. *Library Philosophy and Practice* (e-journal). Retrieved from <http://digitalcommons.unl.edu/libphilprac/1014/>
7. Isiakpona, C. D. (2012). Bibliometric Analysis of the Library and Information Science Research Electronic Journal from 2004 to 2010. *Library Student Journal*, 2012(9). Retrieved from <http://www.librarystudentjournal.org/index.php/ljsj/article/view/301/360>
8. Jena K. L. (2006). A bibliometric analysis of the journal 'Indian Journal of Fibre and Textile Research, 1996–2004. *Annals of Library and Information Studies*, 53 (1), 22-30.
9. Jena, K. L., Swain, D. K., & Sahoo, K. C. (2012). Annals of Library and Information Studies, 2002–2010: A Bibliometric Study. *Library Philosophy and Practice* (e-journal). Retrieved from <http://digitalcommons.unl.edu/libphilprac/716/>
10. Kumar, M., & Murty, A. L. (2011). Bibliometric Analysis of DESIDOC Journal of Library and Information Technology during 2001-2010. *DESIDOC Journal of Library & Information Technology*, 31, (3), 203-208.
11. Panda, J., Mohanty, B., & Sahoo, J. (2011). Mapping of Publication Pattern of IASLIC Bulletin: A decade's Analysis (2000-2009). *IASLIC Bulletin*, 56(3), 234-243.
12. Pandita, R. (2014). DESIDOC Journal of Library and Information Technology (DJLIT): A Bibliometric Study (2003-12). *Library Philosophy and Practice* (e-journal). Retrieved from <http://digitalcommons.unl.edu/libphilprac/1038/>
13. Roy, S. B., & Basak, M. (2013). Journal of Documentation: A Bibliometric Study. *Library Philosophy and Practice* (e-journal). Retrieved from <http://digitalcommons.unl.edu/libphilprac/945/>
14. Sahoo, J., & Mohanty, B. (2002). Communication Pattern in the Journal Studies in Conservation: A Bibliometric Analysis, *ILA Bulletin*, 38(3), 98 – 105.
15. Saravanan G., & Dominic, J. (2014). A Ten-year Bibliometric Analysis of the Journal Review of Palaeobotany and Palynology (2003 – 2012). *Library Philosophy and Practice* (e-journal). Retrieved from <http://digitalcommons.unl.edu/libphilprac/1109/>
16. Suresh, L., & Nigam, S. (2005). Journal of Health Management: A Bibliometric Study. *Journal of Health Management*, 7, 157-162.
17. Tella, A., & Olabooye, A. (2014). Bibliometric analysis of African Journal of Library, Archives and Information Science from 2000-2012. *Library Review*, 63(4/5), 305 – 32.

18. Thanuskodi, S. (2009). Bibliometric Analysis of the Indian Journal of Chemistry. *DESIDOC Journal of Library & Information Technology*, 29(6), 39-44
19. Thanuskodi, S. (2010). Bibliometric Analysis of the Journal Library Philosophy and Practice from 2005-2009. *Library Philosophy and Practice* (e-journal). Retrieved from <http://digitalcommons.unl.edu/libphilprac/437/>
20. Thanuskodi, S. (2011). Library Herald Journal: A Bibliometric Study. *Researchers World-Journal of Arts, Science & Commerce*, II(4), 68-76.
21. Tiew, W. S. (1997). Single Journal Bibliometric Studies: A Review. *Malaysian Journal of Library & Information Science*, 2(2), 93-114
22. Tiew, W. S., Abdullah, A., & Kaur, K. (2002). Malaysian Journal of Library & Information Science 1996-2000: A Bibliometric Study. *Malaysian Journal of Library & Information Science*, 6(2), 43-56
23. Tsay, M. (2008). Journal bibliometric analysis: A case study on the JASIST. *Malaysian Journal of Library & Information Science*, 13(2), 121-139
24. Tsay, M. (2011). A Bibliometric Analysis on the Journal of Information Science. *Journal of Library and Information Science Research*, 5(2), 1-28.
25. Tsay, M., & Shu, Z. (2011). Journal bibliometric analysis: A case study on the Journal of Documentation. *Journal of Documentation*, 67(5), 806–822.
26. Verma, N., & Tamrakar, R. (2013). Analysis of Contributions to Defence Science Journal. *Library Philosophy and Practice* (e-journal).
27. Vijay, K. R., & Raghavan I. (2007). Journal of Food Science and Technology: A bibliometric Study. *Annals of Library and Information Studies*, 54, 207-212.
28. Warraich, N. F., & Ahmad, S. (2011). Pakistan Journal of Library and Information Science: A Bibliometric Analysis. *Pakistan Journal of Library & Information Science*, 12. Retrieved from <http://pu.edu.pk/home/journal/8>
29. Willett, P. (2008). A bibliometric analysis of the literature of chemo-informatics. *ASLIB Proceedings: New Information Perspectives*. 60 (1), 4-17.
30. Zao, et al. (2007). Scholarly Communication in Educational Psychology: A journal citation analysis. *Collection Building*, 26 (4):112-118.